

Claims

1. A hybrid telomerase comprising

(i) a *S. cerevisiae* yeast telomerase protein and

(ii) a template RNA having a mammalian telomere sequence.

2. The hybrid telomerase of claim 1, wherein said template RNA comprises 5'-CCCUAA-3'.

3. A method of producing a hybrid telomerase, which comprises producing a template RNA having a mammalian telomere sequence in a yeast host and allowing said template RNA to assemble with an endogenous telomerase protein of said host.

4. The method of claim 3, wherein said template RNA comprises 5'-CCCUAA-3'.

5. A yeast cell comprising a telomeric template RNA having a mammalian telomere sequence, wherein said cell is capable of adding the complementary mammalian telomere sequence to the ends of a chromosome in the cell.

6. The cell of claim 5, wherein said template RNA comprises 5'-CCCUAA-3'.